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# CENTRAL INTELLIGENCE GROUP

## INTELLIGENCE REPORT

COUNTRY Germany/Russian Zone

SUBJECT Designing of Ship Armatures at Schäffer und Budenberg, Magdeburg

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1. A certain Mangubi, who acts as liaison officer with the Ministry of Shipbuilding in Moscow, is reported to be in charge of the Design Office of that Ministry, which has its offices in the firm of Polte, Magdeburg.

2. Mangubi has entrusted the firm of Schäffer and Budenberg with two development projects, as well as an assignment to refurnish and redraw by 30 June 1947 all plans associated with any development for the German Navy.

3. The Soviet Chief Engineer, Vassiliev, is required to provide weekly reports on the preparation of drawings by Schäffer and Budenberg.

4. The two development projects mentioned above are as follows:

a. The design of a water level regulator (Wasserstandsregler) which directly synchronizes and links the steam consumption of the engine with the supply of water to the feed pump;

b. The design of a valve for reducing steam pressure from 70 atmospheres (probably at 450° C) to 3 atmospheres.

5. Both these projects are believed to be concerned with the development of larger fast vessels, probably destroyers. It appears that the Soviet Ministry of Shipbuilding intends, as did the former German Navy, to use high pressure steam at 70 atmospheres (450° C) as the propulsion medium for these vessels.

6. The present Soviet authorities clearly show, by the questions they put, that they are fully aware of the difficulties which attend the design of a marine high pressure installation. It is well-known that high pressure boilers demand feed water prepared with particular care and have the additional disadvantage of a limited tank capacity (Speicherfähigkeit), as compared with boilers which operate at medium and low pressures.

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7. This disadvantage manifests itself during maneuvers. Abrupt increases in speed, and the resulting larger steam demands (Dampfentnahmen), are limited by the tank capacity of the boiler to the extent that a direct synchronized linkage of steam consumption and the supply of boiler feed water cannot be provided. On the other hand, sudden reductions in speed mean that great quantities of steam are to be reduced in pressure and cannot be blown off into the atmosphere, because they consist of potential feed water which cannot be replaced on shipboard.

8. It is, therefore, arranged that the steam which has lost its pressure is led away in the so-called "over-production circuit" (Ueberproduktionsleitung) and condensed.

9. The experience of the German Navy indicates that it is not extraordinarily difficult to design a serviceable reduction valve to provide for the unimpeded removal of the heat of the steam which has been reduced in pressure.



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